



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of
Ulrichsen et al.

Serial No. 09/541,718

Examiner: T. Nguyen

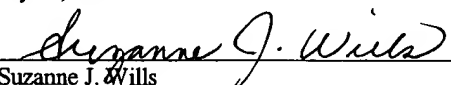
Filed: April 30, 2000

Group Art Unit: 3653

For: DETERMINATION OF CHARACTERISTICS OF MATERIAL

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12. Reply to Examiner's Response to Applicant's Argument

CLAIM 144

Regarding the claim 144 limitation to the scanning of a transverse section of a stream of material at a detection station, the Examiner argues that EPO '221 shows this step in Figs. 1 and 2, and discusses it in column 7, line 48 to column 8, line 28 (noting a radiation zone 22 containing a detector array 20). However, what EPO '221 actually discloses in the cited text is a radiation source 11 that emits a "sheet-like beam of electromagnetic radiation" over the entire width of a slide that conveys a mixture of materials between the source 11 and a detector array 20. Nowhere do Figs. 1 or 2 or the cited text teach or suggest that scanning occurs. Instead, EPO '221 discloses a static radiation source and a static array of detectors that are each restricted to sensing radiation received from only a single direction.

It appears that the Examiner may be relying on a broad alternate definition of the word "scanning" that is synonymous with words like "examining" or "sensing". Using such a broad definition, the word "scanning" could be used to describe the use of a static array of detectors, even though each of them senses inputs from only a single direction.

However, according to the U.S. Court of Appeals for the Federal Circuit, during examination proceedings, claims should be given their "broadest reasonable interpretation *consistent with the specification*". *In re Hyatt*, 54 USPQ2d 1664 (Fed. Cir. 2000) (emphasis added). The U.S. Court of Appeals for the Federal Circuit has also held that, where there are multiple dictionary definitions for a claim term, "[t]he construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction. *Texas Digital Systems, Inc. v. Telegenix, Inc.* 64 USPQ2d 1812 (Fed. Cir. 2002). As such, the Applicant maintains that, in claim 144, the claim term "scanning" should be construed to require a moving or sweeping pattern of detection or examination - the meaning and scope the Applicant has consistently employed in the specification. The Examiner's interpretation, while certainly broad, is not consistent with the specification.

In the specification, the Applicant uses the word "scanning" to differentiate an embodiment that sweeps a sensor across a wide area, from embodiments that instead employ multiple stationary sensors. For example, in lines 8-11 of the specification, the Applicant describes a system for which "[a] one-dimensional line detector is usable, although a two-dimensional matrix detector *or a one-element detector with a scanning facility* can be employed". Here, the Applicant clearly uses the word "scanning" to describe an action required to allow a single-element detector to accomplish the same thing as a line detector or a matrix detector: to receive sensory inputs from across a wide area. The Examiner's apparent broad interpretation of the word "scanning" is inconsistent with this passage because it would describe the line detectors, matrix detectors, and single element detectors (since they are all used to "examine" or "sense"). As such, the Examiner's broad

interpretation of "scanning" would render redundant the description of the facility associated with the single-element detector as a "scanning" facility.

In lines 6-9 of page 7 of the specification, the Applicant indicates that "[b]y applying multiple sensors and/or a scanning system, it becomes possible to introduce a large number of detection points." This statement indicates that the Applicant considers the word "scanning" to involve something that multiple sensors, such as the detector array 20 of EPO '221, would not be capable of, i.e., something more specific than "examination" or "sensing". The Applicant is saying, in other words, that a large number of detection points can be sensed either by multiple sensors, as in EPO '221, by a scanning system, or both. Here, again, the Examiner's broad interpretation of the word "scanning" would render the Applicant's reference to a "scanning" system redundant. This is because, according to the Examiner's interpretation, any detection system, whether an array of multiple sensors, or a single sensor, would qualify as a "scanning system". In other words, according to the Examiner's interpretation of "scanning", the above statement would be the same as the statement "[b]y applying a scanning system and/or a scanning system, . . .".

The Applicant consistently uses the terms "scanning" and "scan" to describe a detection or examination pattern that moves or sweeps across the width of a stream of material. For example, in lines ¹⁵⁻¹⁸23-25 of page ⁶5 the Applicant describes one prior art system as including "a mechanical scanner reciprocated across the width of the strip . . .". In lines 35-38 of page 8, the Applicant states that "[i]f the stream moves at some 2.5 m/sec. and the system is capable of 100 to 160 scans across the stream each second, then detections can be made at a spacing of some 2.5 to 1.5cm along the stream." Since a number of scans are made "across" the stream each second, then a scan must include a moving or sweeping pattern of detection rather than just an "intensive examination". Also, in lines 38-39 of page 8, the Applicant refers to each scan being "divided into 25 to 50 detection points". To be divided into discrete detection points, a scan must, again include a sweeping detection pattern rather than just an "intensive examination".

this is reference
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In relation to the claim 144 limitation "said determining is performed for each detection zone in respect of a plurality of said wavelengths simultaneously", the Examiner seems to be arguing that the disclosure of determining the intensity of a *continuum* of wavelengths, as disclosed in EPO '221, satisfies this claim 144 limitation. As such, it appears that the Examiner has overlooked the fact that claim 144 describes the intensity determination as being made only with respect to certain *selected* wavelengths. As such the step of determining of the intensity of a *continuum* of wavelengths disclosed in EPO '221 doesn't satisfy this limitation.

EPO '221 doesn't anticipate claim 144.

CLAIM 145

Regarding claim 145, the Examiner is correct in stating that the wavelength bands to be detected depend upon the physical and chemical properties of the items to be treated, but, as previously stated to the Examiner on more than one occasion, EPO '221 clearly does not disclose the specific wavelength bands that claim 145 recites. As such, EPO '221 doesn't anticipate claim 145.

CLAIM 168

Regarding this claim, the Examiner argues that the receiving means of EPO '221 can be considered an antenna and therefore anticipates claim 168. As such, it appears that the Examiner has misconstrued claim 168 as referring to the receiving means rather than the emitting means. The claim describes the *emitting* means, not the *receiving* means, as comprising an antenna. As such, the *receiving* means in EPO '221 may be considered to be an antenna as the Examiner says, but this doesn't satisfy the claim 168 "emitting means" limitation. EPO '221 doesn't anticipate claim 168.

CLAIMS 169-171

Claims 169, 170, and 171 are allowable through their appendancy to claim 174.

Claim 171 is additionally allowable because it recites a limitation that EPO '221 doesn't satisfy, i.e., a data-obtaining means that serves to construct a two-dimensional simulation of matter passing through a detection station. Although this issue was resolved in the Applicant's favor during prosecution of the parent application of this divisional application (United States Patent Application 08/776589, which issued as United States Patent US-A-6060677), the Examiner argues once again (without explanation) that EPO '221 comprises a detection zone 22 that comprises two-dimensional simulation.

For the same reasons set forth during prosecution of the parent application, the Applicant once again maintains that the EPO '221 detection zone doesn't comprise two-dimensional simulation.

CLAIM 174

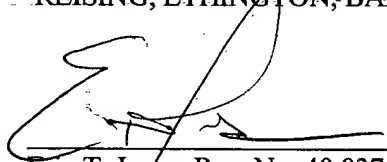
The Applicant has repeatedly asked the Examiner to identify in the prior art the following features recited in claim 174: a metal detection station, an emitting means that emits an electromagnetic field, and a receiving means that comprises a multiplicity of electromagnetic field sensing devices arranged to be distributed across the stream. The Examiner's Answer once again insists that EPO '221 anticipates this claim, but fails to identify any of these features in EPO '221. The Examiner does cite one passage (between lines 36 and 46 of column 1) of EPO '221 in what appears to be an attempt to identify just one of these three features (a metal detection station). However, while the cited passage states that it's useful to be able to separate metals from non-metals, it doesn't disclose *detection* of metal. Neither does the passage, nor any other portion of EPO '221, disclose an emitting means that serves to emit an electromagnetic field, i.e., a field of force that is made up of associated electric and magnetic components that results from the motion of an electric charge, or electromagnetic field sensing devices. All that EPO '221 discloses in relation to its detection array 20 is that the array comprises detectors 15 capable of measuring intensity of radiation, and nothing whatsoever to do with electromagnetic field sensing.

In conclusion, the Applicant maintains that all of the Applicants' claims are allowable over the teachings of the references, and respectfully requests the Board of Appeals' approval.

The Commissioner is authorized to charge any fee or credit any overpayment in connection with this communication to our Deposit Account No. 50-0852. A duplicate copy of this sheet is enclosed.

Respectfully submitted,

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